Myocardial defect detected by $^{123}$I-BMIPP scintigraphy and left ventricular dysfunction in patients with idiopathic dilated cardiomyopathy

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The present study examined the role of myocardial fatty acid in patients with idiopathic cardiomyopathy (DCM) by means of $^{123}$I-β-methyl-p-iodophenyl pentadecanoic acid ($^{123}$I-BMIPP) scintigraphy. Thirteen patients underwent $^{123}$I-BMIPP imaging, $^{201}$TI imaging and echocardiography. All patients showed defective myocardial uptake of $^{123}$I-BMIPP and $^{201}$TI. The left ventricular end-diastolic dimension (64.1 ± 7.3 mm vs. 55.6 ± 1.5 mm, p < 0.05) and end-systolic dimension (52.4 ± 8.0 mm vs. 40.6 ± 2.1 mm, p < 0.01) were significantly larger in the large defect group ($^{123}$I-BMIPP defect score (DS) > 8) than the small defect group (DS < 7). The % fractional shortening (%FS) was also significantly smaller (18.6 ± 3.8% vs. 27.0 ± 3.3%, p < 0.01) in the large defect group. The $^{123}$I-BMIPP DS correlated statistically with %FS (r = 0.75, p < 0.01), while the $^{201}$TI DS did not (r = 0.41, ns). We conclude that the patients with DCM revealed a $^{123}$I-BMIPP uptake defect and the defect reflected the degree of left ventricular dysfunction.

Key words: DCM, $^{123}$I-BMIPP, $^{201}$TI, echocardiography, left ventricular function